

REMARKS

I. Introductory Comments

In the Office Action under reply, the Examiner rejected the claims as follows: under 35 U.S.C. §112, first paragraph, for allegedly lacking enablement (claims 28-30, 38-44, 46-49 and 54); under 35 U.S.C. §112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter regarded as the invention (claims 28-30, 38-44, 46-49 and 52-54); under 35 U.S.C. §102(b) as allegedly being anticipated by Bergstrom et al. (WO 99/32424) (claims 28-30, 38-44, 46, 47, 49, 52 and 53); and under 35 U.S.C. §103(a) as allegedly being anticipated by Bergstrom et al. (WO 99/32424) in view of Hunter et al. (U.S. Patent No. 5,763,538) and Baker (U.S. Patent No. 5,634,971) (claims 28, 42-44 and 54).


II. Status of the Claims

Claims 28-30, 38-44, 46-49 and 52-54 were previously pending.

Claims 28, 29, 53 and 54 have been amended and claim 52 has been canceled with the ability to prosecute the previously pending subject matter in one or more applications. Thus, claims 28-30, 38-44, 46-49, 53 and 54 remain under consideration.

Support for the changes to the claims is identified below. Additional support other than that identified below may exist in the originally filed application for one or more changes to the claims.

The structure in claim 28 has been amended such that the ortho ester moiety has been

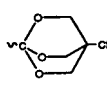
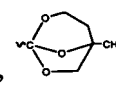

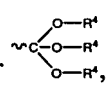

changed from "" to one that recites R⁴ moieties, wherein each R⁴ is either (i) an organic radical independently selected from the group consisting of alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, aryl, and substituted aryl, or (ii) one or more atoms that combine with another R⁴ or the remaining R⁴ moieties to form a cyclic ortho ester structure. Support for the change can be found on pages 23-25 of the specification and claims 52 and 53 as originally filed. Claims 29, 53 and 54 have been amended to provide correct antecedent basis and/or correct matters relating to form based on the changes made to claim 28.

Claim 29 has also been amended to omit "comprising-type" language and substitute therefor the term --has-- so as to better reflect the transition claim language conventionally employed in the chemical structure context.



As support for the changes is found in the application as filed, no new matter is introduced by the entry of the above-identified changes. The changes to the claims are made for clarification purposes only should not be interpreted as acquiescence in any claim rejection.

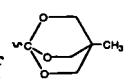
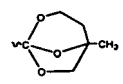

III. The Rejection Under 35 U.S.C. §112, First Paragraph

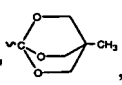
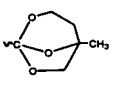


The Examiner has rejected claims 28-30, 38-44, 46-49 and 54 under 35 U.S.C. §112, first paragraph. The Examiner indicates that the rejection can be overcome by replacing the moieties in

claim 54, which the Examiner purports to be ,  and  or ¹ for the  in the polymer of claim 28.

Without conceding in the rejection and reserving the right to prosecute any unclaimed subject matter in one or more divisional and/or continuation applications, Applicant has amended

claim 28 by deleting the " moiety for , which is one of the moieties the Examiner requested to be incorporated into claim 28 to overcome the rejection. By reciting each R⁴ as either (i) an organic radical independently selected from the group consisting of alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, aryl, and substituted aryl, (ii) or one or more atoms that combine with another R⁴ or the remaining R⁴ moieties to form an ortho ester cyclic structure, Applicant provides a generic structure that encompasses both "organic

radicals" (as set forth in claim 52) as well as the cyclic structures of ,  and  (as set forth in claim 54).

¹ Claim 54, in fact, recites ",  and , but Applicant understands the Examiner's point to be addressing the " moiety, which -- in the Examiner's view -- raises an enablement concern.

It is believed that this approach is consistent with the Examiner's suggestion to overcome this 35 U.S.C. §112, first paragraph, rejection. Consequently, reconsideration and removal of this 35 U.S.C. §112, first paragraph, rejection are respectfully requested.

IV. The Rejection Under 35 U.S.C. §112, Second Paragraph

The Examiner has rejected claims 28-30, 38-44, 46-49 and 52-54 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as his invention. Specifically, the Examiner alleged that the meets and bounds of ~~the~~ ~~the~~ ~~the~~ in the polymer of claim 28 are not known.

In response, Applicant asserts that the meets and bounds, of the ~~the~~ ~~the~~ ~~the~~ representation are clear to one of ordinary skill in the art. In any event, Applicant points out that the pending claims do not include any appearance of ~~the~~ ~~the~~ ~~the~~, thereby rendering moot this rejection.

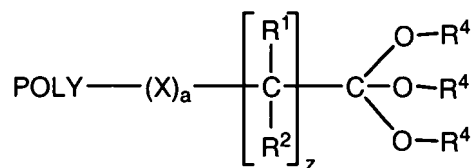
Consequently, reconsideration and removal of this 35 U.S.C. §112, second paragraph, rejection are respectfully requested.


V. The Rejection Under 35 U.S.C. §102(b)

The Examiner has rejected claims 28-30, 38-42, 46, 47, 49, 52 and 53 under 35 U.S.C. §102(b) as allegedly being anticipated by Bergstrom et al. (WO 99/32424). Ostensibly, the Examiner has taken the position that each and every element of rejected claims is disclosed by Harris et al.

The standard for anticipation is rigorous requiring that every element of the claimed invention be disclosed by a single prior art reference. *See Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed.Cir.1992); *Scripps*, 927 F.2d at 1576-77; *Lindemann Maschinenfabrik GMBH, v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458 (Fed.Cir.1984).

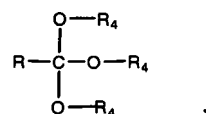
Here, independent claim 28 (the claim upon which all claims ultimately depend) recites the following structure:



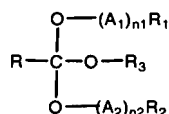
Structurally, the claim indicates "POLY" (i.e., the water-soluble polymer segment) is located at a position other than proximate to one of the three oxygen atoms in the  branched structure.

Turning to Bergstrom et al., the Examiner points to page 1, lines 3-8, which simply discloses (among other things) an "ortho ester-based surfactant, where the hydrophobic and hydrophilic parts are connected by ortho ester linkages to the molecule." No other information concerning the structural arrangement of the ortho ester-based surfactant, however, is provided in this passage cited by the Examiner.

The Examiner also points to Formula II disclosed in Bergstrom et al. in support of the rejection. Formula II, however, is taught as being an ortho ester that can be used to make the ortho ester-based surfactants of Bergstrom et al. Specifically, Formula II,




of Bergstrom et al. discloses "R" as being either a hydrogen or an aliphatic group with 1-7 carbon atoms and R_4 as being an alkyl group with 1-6 carbon atoms. As disclosed by Bergstrom et al., at page 2, ortho esters of Formula II are reacted with reactants having formulas $\text{HO}(\text{A}_1)_{n_1}\text{R}_1$ and $\text{HO}(\text{A}_2)_{n_2}\text{R}_2$, thereby forming ortho ester-based surfactants. Bergstrom et al.'s ortho ester-based surfactants have the following structure:



Bergstrom et al., however, defines R as hydrogen or an aliphatic group with 1-7 carbon atoms, *which is not a water-soluble polymer segment*. Further, even if any of $\sim(\text{A}_1)_{n_1}\text{R}_1$, $\sim\text{R}_3$, or $\sim(\text{A}_2)_{n_2}\text{R}_2$ could be defined as water-soluble polymer segment, the *location* of such a water-soluble polymer segment would be *proximate* to one of the three oxygen atoms in

the  branched structure.

The remaining passages of Bergstrom et al. cited by the Examiner do not alter the analysis that the surfactants taught by Bergstrom et al. simply do not disclose the feature of including a water-soluble polymer segment at a position other than proximate to one of the three

oxygen atoms in the  branched structure.

For at least this reason, Bergstrom et al. fails to disclose each and every feature of independent claim 28 (upon which each of claims 29, 30, 38-42, 46, 47, 49, 52 and 53 depend, either directly or indirectly). Consequently, reconsideration and removal of the rejection under 35 U.S.C. §102(b) are respectfully requested.

VI. The Rejection Under 35 U.S.C. §103(a)

The Examiner has rejected claims 28, 42-44 and 54 under 35 U.S.C. §103(a) as allegedly being unpatentable over Bergstrom et al. (WO 99/32424) in view of Hunter et al. (U.S. Patent No. 5,763,538) and Baker (U.S. Patent No. 5,634,971). The Examiner points out that while Bergstrom et al. does not disclose a capped polyethylene glycol with alkoxy groups, the teachings of Hunter et al. teaches polyethylene glycol that is end capped with methoxy or ethoxy and Baker teaches end-capping polyethylene glycol with methyl groups. The Examiner then concludes that "it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the polymer of Bergstrom having methyl end-capped polyethylene glycol. One having ordinary skill in the art would have used alkoxy-end-capped polyethylene glycol and expect the effects of both polymers to be unaltered in the delivery of active agents."

In determining whether a claimed invention of prior art elements is obvious under 35 U.S.C. §103(a), an inquiry is made as to "whether the improvement is more than the predictable use of prior art elements according to their established functions." *KSR Intern. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1746 (2007). Helpful to this 35 U.S.C. §103(a) inquiry is the determination of the following four questions of fact: (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966)). With regard to these four questions of fact, it is necessary to consider the prior art references in their entireties, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v.*

Garlock, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983). Finally, in formulating a rejection under 35 U.S.C. 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.

Initially, Applicant contends that the claimed invention is not a mere combination of prior art elements. For example, the structure recited in claim 28 (upon which each of claims 42-44 and 54 depend, either directly or indirectly) should be considered on the whole and not dissected into individual features. In this regard, the Examiner has failed to establish a *prima facie* case of obviousness in that no reference cited by the Examiner closely resembles the entire structure recited in claim 28.

Assuming, *arguendo*, that the claimed invention includes a combination of prior art elements, the combination as encompassed by Applicant's claims is not be predicable in view of the cited art. For example, at least with respect to the location of the water-soluble polymer segment within the structure recited in claim 28, Bergstrom et al.'s teaching of surfactants would not lead one of ordinary skill in the art to predict that altering the location of any polymer taught in Bergstrom et al. would provide a compound useful in the preparation of other polymers. See Applicant's specification at page 4, lines 6-11.

Moreover, the additional references of Hunter et al. and Baker cited by the Examiner do not remedy the deficiencies of Bergstrom et al. For example, neither Hunter et al. and Baker teaches or suggests ortho ester functional groups, much less teaching or suggesting the location of a water-soluble polymer segment at a particular location relative to an ortho ester functional group.

As a result, the obviousness rejection of claims of 28, 42-44 and 54 under 35 U.S.C. §103(a) is unsustainable. Reconsideration and withdrawal of the rejection for at least the reasons provided above are respectfully requested.

VII. The Supplemental Information Disclosure Statement

Applicant includes with this Reply a Supplemental Information Disclosure Statement listing a reference cited in a further examination report by the European Patent Office in connection with a counterpart foreign application to the present application. Even if the reference (WO 2004/013205) cited in this Supplement Information Disclosure Statement represents prior art to the present

application, the reference lacks any teaching or suggestion of ortho ester functional groups, much less any teaching or suggestion of the location of a water-soluble polymer segment at a particular location relative to an ortho ester functional group. Thus, for at least this reason, the reference does not alter the patentability of the present claims.

VIII. Conclusion

In view of the foregoing, Applicant submits that the pending claims satisfy the requirements of patentability and are therefore in condition for allowance. Reconsideration and withdrawal of all objections and rejections are respectfully requested and a prompt mailing of a Notice of Allowance is earnestly solicited.

If a telephone conference would expedite the prosecution of the subject application, the Examiner is requested to call the undersigned at (650) 620-5506.

Respectfully submitted on behalf of
Nektar Therapeutics AL, Corporation,

Date: October 11, 2007

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